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November 19, 2018

Hon. Ajit Pai
Chairman
Federal Communications Commission
445 Twelfth Street SW
Washington, DC 20554

Re: *Call Authentication Trust Anchor*
WC Docket No. 17-97

Dear Chairman Pai:

CenturyLink CEO Jeff Storey asked me to respond to your November 5 letter, to address your questions on call authentication and to update you on our plans for this technology. As CenturyLink's Chief Technology Officer, I am pleased to answer your questions on call authentication and update you on our plans to utilize the new SHAKEN/STIR technology. CenturyLink understands the public's frustration with unwanted telephone solicitations, especially when they are used to commit fraud against consumers. We are actively working on and support solutions that will help control the problem of unlawful robocalls and to help protect American families and businesses.

CenturyLink is committed to the development and implementation of a robust call authentication framework. In fact, CenturyLink has been a central player in the development of the SHAKEN/STIR technology and related industry standards, which you noted are key industry tools that will sharply reduce unlawful robocalls. As a leading wholesale provider, CenturyLink is already working to ensure it will have the capability to transmit call authentication as the industry roll-out begins in 2019. As a retail provider, we expect to have SHAKEN-capable software available from our suppliers for detailed testing within weeks, to be followed by final product selection and initial implementation as early as mid-2019. We are committed to support the development and implementation of this IP technology as part of the industry's shared efforts to reduce unlawful robocalls.

What is preventing or inhibiting CenturyLink from signing calls today?

SHAKEN/STIR technology is not yet deployment ready and standards-compliant equipment is not fully tested or competitively available. Also, the industry governance framework, essential to minimize the need to amend intercarrier agreements, is not quite complete.

The industry, including CenturyLink, is moving quickly to adopt and implement call authentication processes and equipment. The initial conceptual testing for SHAKEN/STIR was successfully completed by the ATIS Testbed Focus Group earlier this year. Additional lab testing and live network testing is being conducted now by several participating service providers. We expect to complete CenturyLink's testing in early 2019. Thorough testing is essential to ensure any product offering of this new technology will not harm our network. Although we believe major problems are unlikely, reliability issues have the potential to affect deployment timing to protect quality of service.

Suppliers are moving quickly to develop and market SHAKEN/STIR-enabled equipment and software. CenturyLink is actively working with vendors and intends to deploy SHAKEN/STIR upgrades as standards-compliant and competitive products become available.

What is CenturyLink's timeframe for signing (i.e., authenticating) calls originating on its network?

As a leading wholesale provider, CenturyLink is committed to supporting the development and implementation of SHAKEN/STIR call authentication. Testing has been initiated to confirm that CenturyLink's network will be ready to transit SHAKEN messages as early as the end of 2018.

As a retail provider, we expect that SHAKEN capable software will be available for detailed testing within weeks. Once suitable, standards-compliant software is ready, CenturyLink will make final product selections allowing our network to originate and terminate signed IP calls with the goal of initial implementation beginning as early as mid-2019. We understand that the vendors are working aggressively to finalize SHAKEN-capable product development as required by CenturyLink and other providers. We expect to be able to sign calls originating on the IP portions of our voice network by the end of 2019.

What tests has CenturyLink run on deployment, and what are the results?

CenturyLink actively participated in the development of industry's standards and completed initial interoperability testing. CenturyLink played an active role in leading the ATIS Test Bed Focus Group, which developed the basic SHAKEN interoperability testing process. In this role, the Focus Group coordinated with all participants as industry testing was underway and helped address issues as they arose.

In addition, in collaboration with other major providers, CenturyLink completed early transit testing with signed IP messages. The testing verified that CenturyLink's network design will successfully transit call authentication messages. Lab testing of the additional options will complete as vendor products and software become available, expected by early 2019.

What steps has CenturyLink taken to work with vendors to deploy a robust call authentication framework?

CenturyLink is working with several vendors to evaluate their SHAKEN offerings. Our company was among leading providers working alongside major vendors in ATIS standards groups from the first introduction of the SHAKEN concept to the interoperability testing in the Testbeds Focus Group and the development of the NANC's CATA Working Group report.

Although we expect products to be available for testing and IT integration by early 2019, not all vendors are at the same level of readiness. CenturyLink continues to drive its vendors to quickly develop and provide robust products. We will then work swiftly to validate offerings, select vendors, procure products, complete IT work, integrate products into our systems, and launch on our network. We are also looking outside our established vendor relationships for the most timely and economically sensible upcoming offerings. CenturyLink is currently working with potential suppliers, and may expand as additional vendors make compliant and competitive products available.

How often is CenturyLink an intermediate provider, and does it intend to transmit signed calls from other providers?

CenturyLink is among the nation's largest intermediate providers of long distance. As an intermediate provider, we expect to be ready to enable the earliest adopters of SHAKEN to transit CenturyLink's network with encrypted information necessary for call authentication. As noted above, we have already conducted initial testing to confirm that CenturyLink's network will be ready to transit SHAKEN messages as early as the end of 2018. We expect to be ready to transit signed calls for even the earliest adopters of the technology.

How do you intend to combat and stop originating and terminating illegally spoofed calls on your network?

CenturyLink is currently addressing illegally spoofed calls in a variety of ways. We work closely with other providers to identify, investigate, and disrupt suspected fraudulent calling. Our fraud department monitors potential mass calling events across our network and works closely with the fraud units at other major providers to identify and share information associated with fraudulent or unlawful robocalling campaigns. CenturyLink actively participates in the Industry Trace Back Initiative, coordinated through USTelecom, in which participating providers work together to identify sources of unlawfully spoofed calls and refers suspected fraud cases to the Federal Communications Commission and the Federal Trade Commission for enforcement action. Also, consistent with the Commission's authorization of call blocking, CenturyLink declines to deliver calls that we or other cooperating providers can confidently tie to fraud or unlawful robocalling. CenturyLink was among the first companies to participate in the FCC-authorized Do Not Originate trial, and we continue to block calls spoofing IRS numbers. We refuse service to inbound numbers used for fraud, and we deny service to customers engaged in unlawful outbound robocalling.

Call authentication will reinforce the effectiveness of providers' fraud prevention efforts by helping identify suspicious calls and robocalling campaigns. CenturyLink also remains committed to traditional fraud-fighting efforts, which are critical given continued reliance in the U.S. network on TDM technology. CenturyLink also offers tools to help consumers reduce unwanted calls. Our unique *No Solicitation* feature, available to most of our legacy PSTN local exchange service customers, is highly effective in curbing automated calls. CenturyLink is continually innovating and recently received a patent for a robocall mitigation design.

The Commission has already authorized voice providers to block certain illegally spoofed calls. If the Commission were to move forward with authorizing voice providers to block all unsigned calls or improperly signed calls, how would CenturyLink ensure the legitimate calls of your customers are completed properly?

Although we do not hesitate to block the calls we know are unlawful, we are concerned about potentially blocking legitimate calls. CenturyLink strongly advises against blocking *all* unsigned or improperly signed calls. Not all calls can be authenticated. Thus, the lack of authentication should not be the exclusive basis for blocking calls.

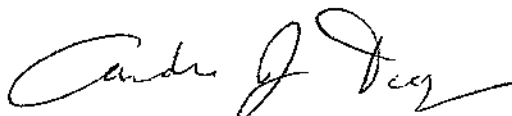
Caller ID spoofing is not always illegal or unwarranted. Caller ID may be legitimately substituted by a business/university/government or medical office that utilizes a centralized calling platform; by organizations that have shared inbound numbers; by small businesses using call diversion and forwarding; or by facilities that need to protect the caller's identity. Furthermore, the technology is new, and not all providers will have it in place at the same time.

The only way a call can be determined to be unlawful is by its content, which service providers cannot and should not monitor. The only exception to this occurs when a voice provider is confident that a call is unlawful or receives information from a trusted party (e.g., state/federal law enforcement, another provider). The customer should determine whether a call is unwanted and should be blocked. In time, SHAKEN technology will help customers screen calls by identifying those that are authenticated. Our industry's goal, which we believe the Commission shares, is to empower consumers to assess the legitimacy of a call and enable them to make blocking decisions while simultaneously striving to avoid "false positive" blocking.

* * *

We share the Commission's and the public's frustration about unlawful robocalls. Working together, we will deliver an effective tool to significantly reduce illegal calls. Please do not hesitate to contact us if you have questions about CenturyLink's and the industry's commitment to the development and implementation of a robust call authentication framework based on SHAKEN/STIR call authentication technology.

Sincerely,

A handwritten signature in black ink, appearing to read "Candice J. Deery". The signature is fluid and cursive, with a long horizontal stroke at the end.

cc: Deborah Salons